

## **Remarks**

Claims 1-8 and 10-16 were pending.

Claims 5, 10, 11 and 16 are cancelled.

Claims 1, 2, 7 and 14 are amended.

Claims 3, 4, 6, 8, 12, 13 and 15 are as previously presented.

Claims 17-21 are new.

The application now contains claims 1-4, 6-8, 12-15 and 17-21.

Claim 1 is amended to incorporate the limitation that the pigment dispersions or suspensions contain "30% to 60% solids by weight of the dispersion" and that sonication occurs "for a period of time from about 5 seconds up to 5 minutes". Support is found in the specification on page 2 paragraph 1, in original claim 7 and in the specification on page 6 line 25.

Claim 2 is amended to incorporate the limitation that the pigment compositions contain "35 to 65% by weight" of the organic or inorganic pigments. Support is found in the specification on page 9, lines 12-14.

Claim 7 is amended to delete the limitation "for a period of time from about 5 seconds up to 5 minutes" which now appears in claim 1 from which claim 7 depends.

Claim 14 is amended to change its dependency to claim 1.

Support for new claims 17-21 is found in the specification on page 6 lines 22-26.

No new matter is added.

## **Objections / Rejections**

Claims 10 and 11 are rejected under 35 USC 102(b) or 35 USC 103(a) over Jap. Pat. Spec. 63-304263A. In order to focus more clearly on particular aspects of the invention, claims 10 and 11 are cancelled.

Claims 1-6, 8, 10-13 and 15-16 are rejected under 35 USC 102(b) as being anticipated by Jap. Pat. Spec. 10-60331 which discloses ultrasonic treatment of aqueous pigment dispersions.

Applicants respectfully traverse the rejections.

JP '311 discloses the preparation of an ink which comprises a minimum of 70% water, a dispersant, a water soluble solvent and, at most, 15 % of a pigment. The Examiner notes that one could assume that the solids content of JP '331 would range between 2-30%. Thus the low end of the solids content of the pigment composition of instantly amended claim 1 would abut the high end of the solids concentration calculated for JP '331.

However, Applicants note that JP '331 contains as an essential element a water soluble solvent: diethylene glycol is exemplified beginning with paragraph 58; a broader description of water soluble solvents is given in paragraph 19.

The instant application defines "solids" at the top of page 3 as fleshed out by some of the preceding discussion on page two. Applicants respectfully aver that the water soluble solvents of JP '331 are not related to solids as defined in the instant disclosure or would be generally considered as part of the solids of an aqueous composition. Therefore, there is actually no overlap between the 30-60% solids of instantly amended claim 1 and the solids in the compositions of JP '331 as JP 331 has necessarily less than 30 % solids.

While this difference may seem small to some, Applicants point out that a goal of the instant invention is to provide easily handled pigment compositions which are then converted into end use compositions such as inks and paints, see for example page 8, lines 10-14 of the instant specification and the instant Examples (and current claim 2) wherein the compositions that are sonicated contain a minimum of 35% pigment. For clarity, a number must be assigned to differentiate between the higher solids pigment composition of the instant application and lower solids end use pigment applications. Claim 1 sets that cutoff at 30% solids; claim 2 sets that cutoff at 35% pigment.

Applicants also note that JP '331 is silent as to how long one needs to sonicate a composition to get an effect. Page 6 lines 22-26 of the instant specification states:

"Further it has been found, and this is an essential feature of the inventive process, that the ultrasonic treatment in the flow-through system preferably can be carried out for a relatively short period of time to achieve the desired and unexpected results. Therefore, the ultrasonic treatment may last from about 5 seconds up to 5 minutes, preferably from about 5 seconds to about 2 minutes, for example from 5 to 20 seconds."

Applicants have amended claim 1 to include this limitation further differentiating the instant invention from the process disclosed in JP '331.

In light of the above amendments and discussion Applicants respectfully submit that no anticipation by Jap. Pat. Spec. 10-60331 can be said to exist regarding the instant claims 1-4, 6, 8, 12, 13 and 15 and kindly ask that the examiner withdraw the rejections.

Applicants also respectfully suggest that given the above described differences between JP '331 and the instant process in terms of time required for sonication and concentration of solids, that one would not have been able to discern or arrive at the instantly claimed invention in light of the teachings of the cited art.

Claims 1-3, 5, 6, 8, 10, 11, 13, 15 and 16 are rejected under 35 USC 102(b) as being anticipated by WO 00/24679 which discloses ultrasonic treatment of aqueous pigment dispersions.

Applicants respectfully traverse the rejections.

WO 00/24679 discloses the use of sonication to enhance the activity of biocides. While the compositions of WO 00/24679 are similar, the actual process is different from that of the instantly amended claims. Unlike Jap. Pat. Spec. 10-60331 discussed above, it is clear from the examples in WO 00/24679 that more than 5 minutes of sonication are required to complete the sonication process therein. As mentioned above, an essential feature of the inventive process is that sonication of less than 5 minutes is required to achieve the rheological improvements of the present invention.

Applicants respectfully aver that in light of the amendments to claim 1 above wherein sonication occurs for a period of time from 5 seconds to 5 minutes that no anticipation by WO 00/24679 currently exists. Applicants also suggest that one would not have been able to arrive at the

discovery that less than 5 minutes of sonication would provide any meaningful results by following the disclosure of WO00/24679 as a minimum of 5 minutes sonication is required before even examining the results.

Applicants therefore kindly ask that the 35 USC 102(b) rejections of claims 1-3, 6, 8, 13 and 15 over WO 00/24679 be withdrawn.

Claims 1-4, 5, 6, 8, 10-13 and 15 are rejected under 35 USC 102(b) as being anticipated by European Patent Specification 0 459 967 which discloses ultrasonic treatment of pigment dispersions in a plasticizer.

Applicants respectfully traverse the rejections.

Applicants respectfully note that European Patent Specification 0 459 967 relates to pigments dispersed in a plasticizer for a PVB resin, hexyl adipate is preferred. See the Abstract and claims 1 and 6. The instant invention relates to pigments dispersed in water. Given the large differences between an aqueous dispersion and a dispersion in an organic solvent or other organic material, Applicants respectfully suggest that no anticipation can exist.

Applicants therefore kindly ask that the 35 USC 102(b) rejections of claims 1-4, 6, 8, 12, 13 and 15 over European Patent Specification 0 459 967 be withdrawn.

Claims 4, 7, 12 and 14 are rejected under 35 USC 103(a) as being obvious over WO 00/24679.

Applicants respectfully traverse the rejections.

It is clear from the examples in WO 00/24679 that more than 5 minutes of sonication are required to complete the sonication process therein. As mentioned above, an essential feature of the inventive process is that sonication of less than 5 minutes is required to achieve the rheological improvements of the present invention. Applicants suggest that one would not have been able to arrive at the discovery that less than 5 minutes of sonication would provide any meaningful results by following the procedures exemplified in the WO00/24679 as a minimum of 5 minutes sonication is required before even examining the results.

Applicants therefore kindly ask that the 35 USC 103(a) rejections of claims 4, 7, 12 and 14 over WO 00/24679 be withdrawn.

Claims 4 and 7 are rejected under 35 USC 103(a) as being obvious over each of Jap. Pat. Spec. 10-60331 and European Patent Specification 0 459 967.

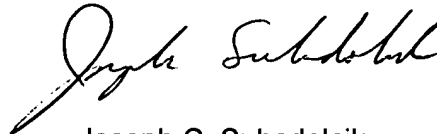
Applicants respectfully traverse the rejections.

As discussed above, Applicants respectfully suggest that given the above described differences between JP '331 and the instant process in terms of time required for sonication and concentration of solids, and the differences between the aqueous dispersions of the instant invention and the pigment dispersions in a plasticizer as in European Patent Specification 0 459 967, that one would not have been able to discern or arrive at the instantly claimed invention in light of the teachings of the cited art.

Applicants therefore kindly ask that the 35 USC 103(a) rejections of claims 4, 7 be withdrawn.

In light of the above amendments and discussion, Applicants kindly ask that all rejections be withdrawn and claims 1-4, 6-8, 12-15 and 17-21 be found allowable. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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